

Attorney Docket No. P65728US0  
Serial No. 09/601,037

**Amendments to the claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of claims:**

Claims 1-42 (canceled)

43. (new) A porous self-supporting structure comprising a tube having at least two porous components A and B and the porous component B embraces the porous component A, wherein
- i) surfaces of pores of the at least two porous components A and B are provided with chemical moieties for interaction with substances passing the pores and
  - ii) the pores of the porous components comprise a uniform multimodal pore size distribution through the entire polymeric structure,
- wherein the first component B comprises a tube like structure having an inner lumen (10) with an inner diameter (12) and an outer diameter (11), the lumen (10) is able to take up the second component A having an inner lumen (20) with an outer diameter (21) and an inner diameter (22) with the proviso that the outer diameter (21) of component A matches the inner diameter (12) of component B and component A fits in component B.
44. (new) The porous self-supporting structure of claim 43 wherein the structure comprises a polymer obtainable by polymerisation of monomers having at least two polymerisable moieties or two types of monomers the first monomer type having one polymerisable moiety

Attorney Docket No. P65728US0  
Serial No. 09/601,037

and the other monomer type is able to crosslink polymer chains obtained by polymerisation of the first monomer.

45. (new) The porous self-supporting structure of claim 43, wherein the surfaces of the pores are modified with functional groups, hydrophobic moieties, reactive groups for covalently binding of ligands, enzymes, immunoglobulins, antigens, lectins, sugars, nucleic acids, cell organelles, or dyes.
46. (new) The porous self-supporting structure of claim 45, wherein the functional groups are ion-exchange groups, and wherein the ligands are affinity ligands.
47. (new) The porous self-supporting structure of claim 46, wherein the affinity ligands are proteins.
48. (new) The porous self-supporting structure of claim 44, wherein the monomers are polyvinyl monomers or polyvinyl monomers plus monovinyl monomers.
49. (new) The porous self-supporting structure of claim 48, wherein the polyvinyl monomers are divinylbenzene, divinylnaphthalene, divinylpyridine, alkylene dimethacrylates, hydroxyalkylene dimethacrylates, hydroxyalkylene, diacrylates, oligoethylene glycol

Attorney Docket No. P65728US0  
Serial No. 09/601,037

diacrylates, vinyl polycarboxylic acids, divinyl ether, pentaerythritol di-, tri-, or tetra methacrylate or acrylate, trimethylolpropane trimethylacrylate or acrylate, alkylene bis acrylamides or methacrylamides, or mixtures thereof.

50. (new) The porous self-supporting structure of claim 48, wherein the monovinyl monomers are styrene, ring substituted styrenes wherein the substitutions are chloromethyl, alkyl with up to 18 carbon atoms, hydroxyl, t-butyloxycarbonyl, halogen, nitro-, amino- groups, protected hydroxyls or amino groups, vinylnaphthalene, acrylates, methacrylates, vinylacetate, or pyrrolidone, or mixtures thereof.
51. (new) The porous self-supporting structure of claim 50, wherein the polyvinyl monomers or polyvinyl monomers plus the monovinyl monomers are present in the polymerisation mixture in an amount of 20 to 60%.
52. (new) The porous self-supporting structure of claim 43, wherein the inner lumen (20) of component A is a sample collector.
53. (new) An article comprising the porous self-supporting structure according to claim 43 fully contained in a cylindrical housing.

Attorney Docket No. P65728US0  
Serial No. 09/601,037

54. (new) The article according to claim 53, wherein the article is a chromatographic unit (30) column or cartridge or a bioconversion reactor or matrix for peptide or oligonucleotides synthesis.
55. (new) The article of claim 54 comprising housing (36) in which the porous self-supporting structure is arranged, the housing (36) having at least one inlet (41) and at least one outlet (40), an inner surface (42) and an outer surface (43), and channel like structure (72) forming a sample distributor (23) on the inner surface (42).
56. (new) The article of claim 55, wherein the channel like structure (72) is a helical groove (25) starting at the area of and being in direct contact with the inlet (41), terminating after at least one complete turn, and not being in direct contact with the outlet (40).
57. (new) The article of claim 56, wherein the chromatographic unit (30) further comprises a first end-fitting (32) and a second end-fitting (38), having O-rings (33,34,35,37) and tightening nuts (31,39).
58. (new) The article of claim 57, wherein the second end-fitting (38) has a top part (52), a bottom part (53) and a casing, the second end-fitting (38) is essentially of cylindrical shape, the second end-fitting (38) comprises a collar (5) dividing the cylindrically shaped end-fitting

Attorney Docket No. P65728US0  
Serial No. 09/601,037

(38) into two parts, whereby the part of the end-fitting (38) nearest to the collar (51) is the top part (52) comprising a connector (50) in connection with a dead-end central bore (54) communicating with a bore (55) which is perpendicular to the dead-end central bore (54), the bore (55) starts in a ring-like groove (56) at the surface of the casing of the second end-fitting (38) and leads into the dead end central bore (54).

59. (new) The article of claim 57, wherein the first end-fitting (32) has a top part (62), a bottom part (63) and a casing, the first end-fitting (32) is essentially of cylindrical shape, the first end-fitting (32) comprises a collar (61) dividing the cylindrically shaped end-fitting (32) into two parts (62,63), whereby the part of the end-fitting (32) nearest to the collar (61) is the bottom part (62) comprising a connector (60) in connection with a central bore (6) extending through the entire first end-fitting (32) and an O-ring (35) placed in a ring-like groove in the casing at the area of the top part (63) of the first end-fitting (32) and O-rings in circular grooves in the top part (63) of the first end-fitting (32).

60. (new) The article of claim 55, wherein the channel like structure (72) is a helical groove (25)

Attorney Docket No. P65728US0  
Serial No. 09/601,037

61. (new) The article of claim 55, wherein the chromatographic unit (30) further comprises a first end-fitting (32) or a second end-fitting (38), having O-rings (33,34,35,37) and tightening nuts (31,39).
62. (new) The article of claim 53 further comprising a collecting element (80) disposed in lumen (20), component A, component B, and collecting element (80) forming a concentric assembly.
63. (new) Process for manufacturing a porous self supporting structure of claim 43 comprising the steps of
- mixing monovinyl and polyvinyl monomers together with porogens and optionally with polymerisation initiators,
  - optionally deaeration,
  - pouring the mixture in a mould for casting a tube-like structure,
  - controlling the temperature in a range of from 40°C to 90°C,
- after formation of the polymer, removing any porogens, unreacted monomer and initiators, and by-products